

CLAIMS

1 *(Original)* 1. An image digitizing system comprising:
2 a spatial array of sensors for converting a visual image to signals,
3 each of said sensors providing a respective signal;
4 a signal converter for converting said signals into pixel data
5 describing an array of pixels, each of said pixels being associated
6 with a respective one of said sensors, the pixel data associated with
7 most of said pixels being a function of signals provided by the
8 respective sensors, the pixel data associated with at least one of
9 said pixels not being a function of a signal from the respective
10 sensor but being a function of one or more signals from
11 neighboring sensors.

1 *(Original)* 2. An image digitizing system as recited in Claim 1
2 wherein multiple pixels are associated with each sensor so that:
3 for most sensors, all pixels associated with that sensor have
4 values that are functions of the signal provided by that sensor; and
5 for said least one sensor, all pixels associated therewith have
6 values that are not functions of the signals provided by that sensor
7 but are functions of signals provided by neighboring sensors.

1 *(Original)* 3. An image digitizing system as recited in Claim 2
2 wherein said signal converter comprises:
3 an analog-to-digital converter for converting said signals to
4 signal data;
5 a data processor for converting said signal data to said pixel
6 data; and
7 memory for storing sensor calibration values that said data
8 processor uses in converting said signal data to said pixel data, said
9 sensor calibration values being selected from a set of possible
10 calibration values, most of said possible calibration values
11 determining the function accordingly to which a pixel value is
12 determined from the signal data from the signal from the associated
13 sensor, a first of said possible calibration values indicating that the
14 pixel value for the corresponding pixel is not to be a function of
15 signal data from the associated sensor but a function of the signal
16 data from a neighboring sensor.

1 *(Original)* 4. An image digitizing system as recited in Claim 3
2 wherein said sensor calibration values are two dimensional, with an
3 offset-function value corresponding to an offset function and a
4 scaling-function value corresponding to a scaling function, said
5 possible calibration values defining an extreme scaling-function
6 value and an extreme offset-function value, said first possible
7 calibration value specifying said extreme offset-function value and
8 said extreme scaling-function value.

1 *(Original)* 5. An image digitizing method comprising:
2 calibrating an array of sensors so as to distinguish “good” and
3 “bad” sensors;
4 using said array to convert a visual image to signals;
5 converting said signals to image data including pixel values
6 associated with an array of pixels, each pixel corresponding to a
7 respective one of said sensors, pixel values associated a good sensor
8 being a function of the signal provided by that good sensor, pixel
9 values associated with a bad sensor not being a function of the
10 signal provided by that bad sensor but being a function of at least
11 one signal provided by a neighboring good sensor.

1 *(Original)* 6. A method as recited in Claim 5 wherein said image
2 data describes a series of raster lines, each of said raster lines
3 including a series of said pixels, all pixels associated with said bad
4 sensor having values determined not as a function of a signal
5 provided by said bad pixel but as a function of said neighboring
6 good sensor.

1 *(Original)* 7. A method as recited in Claim 6 wherein said
2 converting step involves:
3 converting said signals into digital signal data; and
4 converting said digital signal data into said pixel data using
5 sensor calibration values associated with respective ones of said
6 sensors, said sensor calibration values being selected from a range
7 of possible calibration values, said bad sensor being associated with
8 a possible sensor calibration value that indicates that the
9 corresponding pixel data is determined not as a function of its
10 signal but as a function of the signal of a neighboring sensor.

1 (Original) 8. An image digitizing method as recited in Claim 7
2 wherein said sensor calibration values are two dimensional, with an
3 offset-function value corresponding to an offset function and a
4 scaling-function value corresponding to a scaling function, said
5 possible calibration values defining a maximal scaling-function
6 value and a maximum offset-function value, the sensor calibration
7 value for said bad sensor specifying said maximum offset-function
8 value and said maximum scaling-function value.

1 (Original) 9. An image-digitization method comprising the steps
2 of:
3 using an array of sensors to generate a series of signals; and
4 converting said signals into pixel data describing an array of
5 pixels, each of said pixels being associated with a respective one of
6 said sensors, the pixel data associated with most of said pixels
7 being a function of signals provided by the respective sensors, the
8 pixel data associated with at least one of said pixels not being a
9 function of a signal from the respective sensor but being a function
10 of a signal from a neighboring sensor.

1 (Original) 10. A method as recited in Claim 9 wherein plural
2 pixels are associated with each of said sensors so that for said at
3 least one of said sensors none of the pixels associated therewith are
4 described by pixel data that is a function of a signal associated with
5 that sensor.

1 *(Original)* 11. A method as recited in Claim 10 wherein said
2 converting step involves:
3 converting said signals into digital signal data; and
4 converting said digital signal data into said pixel data using
5 sensor calibration values associated with respective ones of said
6 sensors, said sensor calibration values being selected from a range
7 of possible calibration values, at least one of said possible
8 calibration values indicating a sensor for which the corresponding
9 pixel data is determined not as a function of its signal but as a
10 function of the signal of a neighboring sensor.

1 *(Original)* 12. An image digitizing method as recited in Claim 11
2 wherein said sensor calibration values are two dimensional, with an
3 offset-function value corresponding to an offset function and a
4 scaling-function value corresponding to a scaling function, said
5 possible calibration values defining a maximal scaling-function
6 value and a maximum offset-function value, said first possible
7 calibration value specifying said maximum offset-function value and
8 said maximum scaling-function value.